REMARKS

The Office Action mailed June 22, 2007 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

Rejection(s) Under 35 U.S.C. § 112, Second Paragraph

Claims 1-18 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. These claims have been amended to more particularly point out and distinctly claim the subject matter. Applicant respectfully asserts that the claims, as amended, are not indefinite, and are allowable; therefore, the withdrawal of the 35 U.S.C. § 112 rejection based on indefiniteness is respectfully urged.

Rejection(s) Under 35 U.S.C. § 102

Claims 1–4 and 7–8 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by D. de Nobel (U.S. pat. no. 2,865,793), or in the alternative, as obvious under 35 U.S.C. § 103(a) over *de Nobel* in view of the art.

It will be appreciated that, according to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102 only if each and every claim element is found, either expressly or inherently described, in a single prior art reference.[1]

It is respectfully submitted that each of the elements of amended claims 1–4 and 7–8 are not disclosed or taught by *de Nobel*. The French application corresponding to *de Nobel* is mentioned in the present application at paragraph **0071**, which states that:

[1] Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

> in the prior art (see for example French Patent FR 1 143 213 A) a solution of hydrochloric acid with a concentration between 0% and 20% is used. This means that to obtain such a solution, the pure acid has been diluted and the solution's concentration is between 0% and 37% of HCl gas and 20% of 37% of HCl gas."

Thus, *de Nobel*, and the prior art in general, uses a diluted HCl solution, ranging in concentration from 0% to about 20% of pure hydrochloric acid (by weight). Using a hydrochloric acid solution greater than about 20% is not taught or suggested in *de Nobel*, and is not obvious. *De Nobel* states that the described process works "*even if* it is acidified to for example 20% of hydrochloric acid." (col. 2, ll. 19–21) (emphasis added). In *de Nobel*, a concentration of 20% is viewed as an extreme, as indicated by the phrases "even if" (col. 2, ll. 19–21), "acidified or not, even to a HCL-content of 20%" (col. 1, ll. 60), and "acidified to 20% of hydrochloric acid or not acidified" (col. 2, ll. 29–30). It is not contemplated in *de Nobel* that the concentration would exceed 20%. It is even less contemplated that pure hydrochloric acid would be used. Nevertheless, the use of high acid concentrations is advantageous because, for example, it makes possible the use of lower metal concentrations.

Therefore, it would not be obvious in view of the prior art to form an electrode by electrochemical deposition from a highly acidified metal chloride solution. Therefore, claim 1 is not anticipated and nonobvious in view of the prior art.

As to dependent claims 2–10, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Rejection(s) Under 35 U.S.C. § 103 (a)

Claims 5–6 and 8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *de Nobel* in view of Janik et al. ("Ohmic contacts to p-type cadmium telluride and cadmium mercury telluride", *Journal of Physics*, Vol. 16, pp. 2333-2340 (1983)). This rejection is respectfully traversed.

Claims 5–6 and 8 are dependent on independent claim 1, which as amended is patentable for the reasons described above. The arguments above are equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

Moreover, the U.S.P.T.O. has published Examination Guidelines on the issue of obviousness, taking into account the decision in *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q. 2d 1385 (2007) (F.R. vol. 72, No. 195, 57426, Oct. 10, 2007). According to these guidelines, the Examiner must apply the *Graham*[2] factors. (*Id.* at 57527.) Any application of the *Graham* factors in an office action "should include, either explicitly or implicitly in view of the prior art applied, an indication of the level of ordinary skill." (*Id.* at 57528.) Further, the Examiner "must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." (*Id.*) This explanation and analysis "should be made explicit." (*Id.*)

With respect to claims 5 and 6, the Office Action contends that the elements of the presently claimed invention are disclosed in *de Nobel* except that the *de Nobel* does not expressly teach "using a solution of bromine or pure hydrochloric acid for chemical etching to prepare the surface of the II-VI semiconducting material before depositing the at least one electrode"[3] The Office Action further contends that *Janik* "teaches using a solution of bromine or pure

[2] *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966).
[3] Office Action p. 7.

hydrochloric acid (bromine) for chemical etching to prepare the surface of the II-VI semiconducting material before depositing the at least one electrode" and that "it would have been obvious for those skilled in the art to modify the process of D De Nobel by using the solution of bromine or pure hydrochloric acid for chemical etching... to obtain low resistance ohmic contact".[4] The Applicant respectfully disagrees.

Janik refers to a "Br_2/CH_3OH" (bromine and methanol) solution for chemical etching (p. 2333). However, *Janik* does not disclose or teach etching with a solution of bromine and hydrochloric acid. The inventions of claims 5 and 6 would therefore not be obvious to one skilled in the art, in view of *de Nobel* and *Janik*, or any combination of the two references.

With respect to claim 8, the Office Action indicates that the elements of the presently claimed invention are disclosed in *de Nobel* except that the *de Nobel* does not teach the electrode compositions CdZnTe, CdTe:Cl, CdTeSe:Cl, CdZnTe:Cl, CdTe:In, CdZnTe:In, and CdHgTe.[5] The Office Action further contends that "[s]election of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp."[6] The Applicant respectfully disagrees.

The selection of suitable chemical elements for use as the semiconducting material is not a straightforward matter of selecting elements from a list. A number of factors come into play which are not obvious to one of skill in the art, which the present claimed inventions have solved. As stated in the Specification, "Manufacturing of such ohmic contacts on the aforementioned materials (II–VI) remains a delicate problem to be solved, because . . . [of] the suitable electrical behavior which should be obtained...." (p. 2).

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[4] Office Action p. 7.
[5] Office Action p. 7.
[6] Office Action p. 7.

Moreover, the Examiner has not provided the type of analysis required by the new Examination Guidelines for compliance with *KSR*. For instance, the Examiner has not indicated the level of ordinary skill in the art. Therefore, Applicants respectfully assert that claims 5–6 and 8 would not have been obvious in view of the prior art to one with ordinary skill in the art.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Newly-Added Claims

Claims 9 and 10 have been added to further particularly point out and distinctly claim the subject matter regarded as the invention.

Conclusion

In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fees, including those necessary to obtain extensions of time to render timely the filing of the instant Amendment and/or Reply to Office Action, or credit any overpayment not otherwise credited, to our deposit account no. 50-1698.

Respectfully submitted,
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